

PATENT

Attorney Docket No. 5291/54391

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: DeCraene )  
Serial No.: 08/929,019 ) Ex. J. Harold  
Filed: September 15, 1997 ) GAU 2644  
For: NETWORK INTERFACE UNIT SHELF )  
ASSEMBLY WITH MULTI-POSITIONABLE )  
CUSTOMER INTERFACE MODULE )

RECEIVED

DEC 19 2002

Technology Center 2600

Assistant Commissioner of  
Patents  
Washington, D.C. 20231

I hereby certify that this correspondence is being deposited with the  
United States Postal Service as first class mail, postage paid, in an  
envelope addressed to: Assistant Commissioner for Patents,  
Washington, D.C. 20231 on 12-10-02

Charles T. Riggs, Jr., Reg. No. 37,430

Date

APPELLANT'S BRIEF

Sir:

In support of Applicant's appeal, and in accordance with 37 CFR 1.192(a), Applicant herein submits, in triplicate, this Appellant's Brief in response to the Final Office Action mailed January 2, 2002 and the Advisory Action mailed July 18, 2002, acknowledging the filing of a Notice of Appeal on June 10, 2002.

I. Real Party in Interest

This application was originally assigned to Troncom Corporation of Batavia, Illinois, and is now owned by HyperEdge Corporation of Itasca, Illinois, having been acquired via a purchase of the assets of Troncom Corporation.

## **II. Related Appeals and Interferences**

There are no related appeals or interferences known to appellant or appellant's legal representative which will directly affect or be directly affected by or have a bearing on the Board's decision in this pending appeal.

## **III. Status of Claims**

Claims 1-19 are pending in this application. Claims 1-19 as set forth in Appendix A, have been finally rejected in the Office Action mailed January 2, 2002, as maintained in the Advisory Action of July 18, 2002. Claims 1-19 are the claims being appealed.

## **IV. Status of Amendments**

All previous Amendments have been entered and considered by the Examiner.

## **V. Summary of Invention**

Applicant's invention relates to telecommunication equipment, and specifically, to a shelf assembly 40 (as best seen in Figure 2A) which shelves numerous network interface units (not shown) in housing area 52. Network interface units are used to interface the customer's lines with the network service provider's lines. The customer's lines are connected to a customer interface module 70 (see

Figure 2C) on the shelf assembly (as shown, e.g., in Figure 5A). In Applicant's invention, the customer interface module 70 is detachable from and repositionable to either side of the shelf assembly (compare Figures 2A and 2B, and 5B and 5D), by connecting the module 70 via (male or tongue) connector 78 (see Figure 2C) to one of two (female or groove) connectors 60 and 61 located on opposite sides of the shelf assembly (see Figures 2B and 2C).

Accordingly, the invention comprises a customer interface module 70 which is selectively detachable and positionable in one of a plurality of customer interface module connectors 60, 61 positioned on a shelf assembly 40, which receives a plurality of network interface units in network interface unit connectors 54. The module 70 includes a plurality of connectors 72 (phone jacks) which each correspond and is wired to a specific network interface unit connector 54. Thus, for example, the customer's lines are plugged into the phone jacks 72 on the customer interface module 70, and are thus in turn connected with the service provider's network interface units connected to the respective network interface unit connectors 54. The entire customer interface module 70 is selectively detachable and positionable in either customer interface module connector 60 or 61.

## VI. Issues

- 1) Whether Claims 1-3 and 17-19 are anticipated under 35 U.S.C. §102(b) by Collins et al., as rejected in the Final Office Action mailed January 2, 2002, and as maintained in the Advisory Action of July 18, 2002.
- 2) Whether Claims 4 and 6 are anticipated under 35 U.S.C. §102(b) by Bremenour et al., as rejected in the Final Office Action mailed January 2, 2002, and as maintained in the Advisory Action of July 18, 2002.
- 3) Whether Claims 5, 7 and 8 are unpatentable under 35 U.S.C. §103(a) over Bremenour et al. in view of Collins et al., as rejected in the Final Office Action mailed January 2, 2002, and as maintained in the Advisory Action of July 18, 2002.
- 4) Whether Claim 9 is unpatentable under 35 U.S.C. §103(a) over Bremenour et al. in view of Collins et al., and further in view of Reed, as rejected in the Final Office Action mailed January 2, 2002, and as maintained in the Advisory Action of July 18, 2002.
- 5) Whether Claims 10, 11 and 16 are unpatentable under 35 U.S.C. §103(a) over Bremenour et al. in view of Collins et al., and further in view of well known prior art (MPEP 2144.03), as rejected in the Final Office Action mailed January 2, 2002, and as maintained in the Advisory Action of July 18, 2002.

- 6) Whether Claims 12-14 are unpatentable under 35 U.S.C. §103(a) over Bremenour et al. in view of Collins et al., and further in view of Jensen et al., as rejected in the Final Office Action mailed January 2, 2002, and as maintained in the Advisory Action of July 18, 2002.
- 7) Whether Claim 15 is unpatentable under 35 U.S.C. §103(a) over Bremenour et al. in view of Collins et al., and further in view of Jensen, and in further view of well known prior art, as rejected in the Final Office Action mailed January 2, 2002, and as maintained in the Advisory Action of July 18, 2002.

#### VII. Grouping of Claims

Claims 1, 17 and 19 stand or fall together. Claims 4 and 6 stand or fall together. The remaining Claims do not stand or fall together.

#### VIII. Argument

- 1) *Whether Claims 1-3 and 17-19 are anticipated under 35 U.S.C. §102(b) by Collins et al., as rejected in the Final Office Action mailed January 2, 2002, and as maintained in the Advisory Action of July 18, 2002.*

Claims 1-3 and 17-19 have been rejected under 35 U.S.C. §102(b) as being anticipated by Collins et al. For the following reasons,

the Examiner's rejection is respectfully traversed.

Collins et al. is not the same invention ("identity of invention") as Applicant's claimed invention and does not anticipate the same under the law pertaining to 35 U.S.C. §102:

[A]nticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, **arranged as in the claim.** ... The issue is decided by identifying the elements of the claims, **determining their meaning in light of the specification** and prosecution history, and identifying corresponding elements disclosed in the allegedly anticipating reference....

An anticipatory reference must **clearly and unequivocally** disclose the claimed invention or direct those skilled in the art to the claimed invention without any need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the reference. ... [A]n **anticipation must speak affirmatively and with certainty; must disclose the invention without debate;** ... (citations omitted) Idacon Inc. v. Central Forest Products Inc., 3 USPQ2d 1079, 1089 (ED Ok 1986). Accord: Glaverbel S.A. v. Northlake Marketing & Supply Inc., 33 USPQ2d 1496, 1498 (CAFC 1995).

The elements of Applicant's claimed invention, as determined or interpreted in light of the specification and drawings, are not anticipated by the cited prior art. Applicant respectfully asserts that the Examiner's anticipation rejection is inappropriate.

Initially, Applicant repeats and realleges all of the arguments made in its prior Amendment and Response as though fully stated herein. In response to Applicant's arguments, the Examiner has taken the position that Applicant is attempting to read limitations from the specification into the claims. However, this is not the case.

Applicant has merely attempted to define for the Examiner what each claim element is, as shown and described in the specification, to show why the claim limitations do not have a corresponding element in the cited prior art reference(s). The Examiner acknowledges that the claims must be interpreted in light of the specification. In Applicant's prior arguments, Applicant is simply interpreting the claims in light of the specification.

Accordingly, it is clear that Collins et al. does not meet every properly interpreted claim limitation of Applicant's original Claims 1-3 and 17-19. Again, the issue of anticipation is decided by 1) identifying the elements of the claims, 2) determining their meaning in light of the specification and prosecution history, and 3) identifying corresponding elements disclosed in the allegedly anticipating reference. Idacon, Inc., supra.

This three step analysis is applied with respect to **Claims 1, 17 and 19** as follows:

Step 1 (identifying the elements of the claims): The elements of these claims are generally identified as a shelf assembly 40 having at least two customer interface module connectors 60, 61, and a customer interface module 70 selectively and removably connectable to either of the customer interface module connectors 60 or 61.

Step 2 (determining their meaning in light of the specification): In interpreting or determining the meaning of these

elements in light of the specification, it is unquestionable that the claimed customer interface module 70 is the device where the customer lines attach. This is not a limitation being read into the claim, this is simply determining or interpreting what that claim element is. Similarly, it is unquestionable that the claimed two customer interface module connectors 60, 61 are the two slots where the customer interface module 70 can connect (as best seen in Figures 2A and 2B). Again, this is not a limitation being read into the claim, this is simply determining or interpreting what that claim element is.

Step 3 (identifying corresponding elements disclosed in Collins et al.): Collins et al. does not disclose any corresponding elements to Applicant's two customer interface modules connectors 60, 61 or a customer interface module 70 which is selectively and removably connectable to either connector 60 or 61. Nothing in Collins et al. comes even close to equating to (anticipating) these elements as properly interpreted in light of Applicant's specification. In Collins et al., what would most closely correspond to a "customer interface module" is the plurality of telephone terminals 20 or the additional connector 22 which in turn connects to the terminal block 20 (see Figure 3 and column 5, lines 8-31). However, this block of terminals 20 is not selectively and removable attachable to one of two connectors. In fact, Collins et al. does not disclose, suggest



or even contemplate having two connectors for the terminal block 20, wherein the terminal block 20 could be attached in one connector or the other. As such, Collins et al. does not disclose any corresponding elements to Applicant's two customer interface modules connectors 60, 61, or a customer interface module 70 which is selectively and removably connectable to either connector 60 or 61.

The Examiner mistakenly attempts to equate Collins et al.'s twenty five subscriber interface modules 70 with Applicant's single customer interface module 70. These are very different elements which do not correspond to one another. In Collins et al., each of the terminals of the terminal block 20 (i.e., "customer interface module") is connected to one of a plurality of subscriber line interface modules 70. These subscriber line interface modules 70 most closely correspond to the network interface units to be placed in Applicant's network interface unit connectors 54 of shelf assembly 40 (See Figure 2A, 3). Applicant's shelf assembly illustrates fourteen of such network interface unit connectors 54, while Collins et al. has slots for twenty five subscriber interface modules 70, i.e., "network interface units."

The following chart illustrates generally the most closely corresponding elements of Applicant's invention and Collins et al.:

Elements of Applicant's invention	Elements in <u>Collins et al.</u> most closely corresponding to Applicant's elements
Shelf Assembly 40	Network interface section 17
Network Interface Unit Connectors 54 (fourteen illustrated)	Subscriber Interface Modules 70 (twenty five illustrated)
Customer Interface Module 70 (having fourteen telephone terminals 72 to connect to the fourteen network interface connectors 54)	Telephone terminals 20 or 22 (having twenty five terminals to connect with the twenty five subscriber interface modules 70)
Two Customer Interface Module Connectors 60, 61	No such corresponding elements

Accordingly, Collins et al. does not anticipate, i.e., clearly and unequivocally disclose the claimed invention or direct those skilled in the art to the claimed invention. Collins et al. does not disclose, suggest or even contemplate a "customer interface module" (i.e., terminal block 20) being selectively attachable and positioned in one of two connectors, i.e., there is not two connectors provided to selectively attach the customer interface device (terminal block) 22 or 20. Collins et al. simply provides a fixed customer interface device (terminal block) 22 or 20 which is attached directly to the

enclosure 12, as opposed to Applicant's invention wherein the customer interface module 70 is selectively and removably attachable to the shelf assembly via one of a plurality of connectors 60, 61.

Accordingly, Collins et al. does not meet the limitations of Applicant's claimed invention, and specifically the limitations that there are at least two customer interface module connectors 60, 61 on the shelf assembly, as well as a customer interface module 70 being selectively and removably attachable to either one of the connectors 60, 61. Therefore, Applicant respectfully requests that the Examiner's rejection be overturned.

With respect to Claims 2, 3 and 18, it is noted that the cover 44 in Collins et al. does not have any opening (see Figure 1). Instead, there is an opening 39 formed in bottom wall 38, not cover 44. Further, this opening 39 is not allowing placement of the cover 44 around anything. Further, the Examiner again mistakenly equates the subscriber interface module 70 of Collins et al. with the customer interface module 70 of the claimed invention.

Further, with respect to Claim 18, Collins et al.'s cover 44 is hinged at one side, and is not removable. It is not placed or "positionable over" the entire shelf assembly and "removably outward" of the same as in Applicant's invention.

Accordingly, Collins et al. does anticipate Applicant's claimed invention. Applicant respectfully states that Claims 1-3 and 17-19

are clearly defined over Collins et al. and are in condition for allowance. An early notice of allowance is respectfully requested.

- 2) *Whether Claims 4 and 6 are anticipated under 35 U.S.C. §102(b) by Bremenour et al., as rejected in the Final Office Action mailed April 5, 2002, and as maintained in the Advisory Action of July 31, 2002.*

Claims 4 and 6 have been rejected under 35 U.S.C. §102(b) as being anticipated by Bremenour et al. For the following reasons, the Examiner's rejection is respectfully traversed.

Bremenour et al. does not meet every claim limitation of Applicant's Claims 4 and 6, under the law of 35 U.S.C. 102 as discussed above. Claim 4 and 6 claim that the shelf assembly 40 has at least two customer interface module connectors 60, 61, and that the customer interface module 70 selectively connects to either of the customer interface module connectors 60 or 61. Bremenour et al. on the other hand, does not disclose any such corresponding elements. Further, Bremenour et al. discloses a rack for a control system for machinery and is unrelated and non-analogous to Applicant's shelf assembly for telecommunications network interface units and for interconnecting customer lines with network service provider lines as described and claimed. It is noted that the preamble in Claims 4 and 6 breath life and meaning into the claim and cannot be ignored. "[A]ny phraseology in the preamble that limits the structure of that

*article or apparatus must be given weight."* MPEP §2111.02.

Notwithstanding the non-analogous art, and as best understood in the Examiner's rejection, in Bremenour et al., the I/O modules 25 would roughly correspond to Applicant's network interface units attached in the network interface unit connectors 54. The adapter module 26 in Bremenour et al. would roughly correspond to Applicant's customer interface module 70. The connectors 28 and 29 on adaptor module 26 in Bremenour et al. would roughly correspond to Applicant's amphenol type connectors 74.

However, Bremenour et al.'s adaptor module 26 cannot be selectively connected to one of two connectors. Further, Bremenour et al. does not disclose the use of a plurality of connectors for the adaptor module 26 to connect to the circuit board, i.e., there is not two connectors provided to attach the adaptor module 26 to the circuit board. Bremenour et al. simply provides one fixed location for the adaptor module 26 "along the right hand side plate 2" (see column 3, lines 58-59), as opposed to Applicant's invention wherein the customer interface module 70 is selectively connected to the shelf assembly via one of a plurality of connectors 60, 61. Note that the relevant connectors are the connectors connecting the module to the shelf assembly, not connections for the customer lines to the module.

Accordingly, Bremenour et al. does not meet the limitations of

Applicant's claimed invention, and specifically the limitations that there are at least two customer interface module connectors 60, 61 on the shelf assembly, as well as a customer interface module 70 selectively connected to either one of the connectors 60, 61. Again, anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. Idacon, Inc., supra. In addition to the above deficiencies, there are no customer lines or network service provider lines in Bremenour et al., to which the Examiner refers to as "inherent," contrary to the law pertaining to 35 U.S.C. §102. Therefore, Applicant respectfully requests the Examiner's rejection be overturned.

Accordingly, Bremenour et al. does not anticipate Applicant's claimed invention. Applicant respectfully states that Claims 4 and 6 are clearly defined over Bremenour et al. and are in condition for allowance. An early notice of allowance is respectfully requested.

- 3) *Whether Claims 5, 7 and 8 are unpatentable under 35 U.S.C. §103(a) over Bremenour et al. in view of Collins et al., as rejected in the Final Office Action mailed January 2, 2002, and as maintained in the Advisory Action of July 18, 2002.*

Applicant respectfully states that the above identified deficiencies of Bremenour et al. and Collins et al. remain in the Examiner's proposed combination thereof, and for the reasons stated

above, the Examiner's proposed combination do not make obvious Applicant's claimed invention.

With respect to Claim 5, the Examiner states that it is well known in the art to have a cover having at least two customer interface module opening, and since Collins allegedly shows the same, that it would have been obvious to use such a cover on Bremenour et al. However, for the reasons described above with respect to Bremenour et al., and the cover of Collins et al., hereby incorporated herein by reference, the Examiner's proposed combination fails. Collins et al. fails to make up for the deficiencies of Bremenour et al. (as described with respect to Claim 4), and further fails to meet the limitations for which it is cited, i.e., the cover (as described with respect to Claim 3).

With respect to Claims 7 and 8, the Examiner attempts to combine with Bremenour et al., the enclosure and cover of Collins et al. to met these claim limitations. However, for the reasons described above with respect to Bremenour et al., and the cover of Collins et al., hereby incorporated herein by reference, the Examiner's proposed combination fails. Collins et al. fails to make up for the deficiencies of Bremenour et al. (as described with respect to Claim 6), and further fails to meet the limitations for which it is cited, i.e., the cover (as described with respect to Claim 3), and the two customer interface module connectors (as described with respect to

Claims 1, 17 and 19). Additionally, the Examiner erroneously suggests that because Collins et al. has a cable guide and opening in the top and bottom walls of Collins et al., that somehow this suggests use of two customer interface module connectors. There simply is no relationship or connection between cable guides and connectors for a customer interface module.

Accordingly, the proposed combination of Bremenour et al. in view of Collins et al. fails to meet the above described claim limitations of not only the dependent claim, but also independent claim from which they depend. Applicant respectfully states that Claims 5, 7 and 8 are clearly defined over Bremenour et al. in view of Collins et al. and are in condition for allowance. An early notice of allowance is respectfully requested.

- 4) *Whether Claim 9 is unpatentable under 35 U.S.C. §103(a) over Bremenour et al. in view of Collins et al., and further in view of Reed, as rejected in the Final Office Action mailed January 2, 2002, and as maintained in the Advisory Action of July 18, 2002.*

Applicant respectfully states that the above identified deficiencies of Bremenour et al. and Collins et al. remain in the Examiner's proposed combinations, and for the reasons stated above, the Examiner's proposed combinations do not make obvious Applicant's claimed invention. Further, Reed is being cited to allegedly show connection of the customer lines in a direction parallel to the



printed circuit board. However, Reed does not show the same. In Reed, base 60 would equate to the location of Applicant's printed circuit board, and the lines of Reed are connected in a direction perpendicular thereto, i.e., from the front, not from the sides.

Accordingly, since the proposed combination fails to meet the above described claim limitations of not only the dependent claim, but also independent claim from which they depend, Claim 9 is allowable there over. An early notice of allowance is respectfully requested.

- 5) *Whether Claims 10, 11 and 16 are unpatentable under 35 U.S.C. §103(a) over Bremenour et al. in view of Collins et al., and further in view of well known prior art (MPEP 2144.03), as rejected in the Final Office Action mailed January 2, 2002, and as maintained in the Advisory Action of July 18, 2002.*

Applicant respectfully states that the above identified deficiencies of Bremenour et al. and Collins et al. remain in the Examiner's proposed combinations, and for the reasons stated above, the Examiner's proposed combinations do not make obvious Applicant's claimed invention. Further, Applicant respectfully requested a citation of a prior art reference showing the alleged "well known prior art" pursuant to MPEP 2144.03, but none was identified.

With respect to Claim 10, upon information and belief, it is not well known in the art to connect network service provider lines to a network service provider line connector in the manner claimed. The

proposed combination does not show or suggest the same.

With respect to Claim 11, upon information and belief, it is not well known in the art to locate a network service provider line connector in the manner claimed. The proposed combination does not show or suggest the same.

With respect to Claim 16, the cover of Collins et al. differs from Applicant's cover as described above, and further does not have openings in the side flanges, as in Applicant's claimed invention (references 45 and 47, Figures 4A and 4B). Further, upon information and belief, it is not well known in the art to extend top and bottom flanges and provide openings there through in the manner claimed. The proposed combination does not show or suggest the same.

Accordingly, since the proposed combination fails to meet the above described claim limitations of not only the dependent claim, but also independent claim from which they depend, these claims are allowable there over. An early notice of allowance is respectfully requested.

- 6) *Whether Claims 12-14 are unpatentable under 35 U.S.C. §103(a) over Bremenour et al. in view of Collins et al., and further in view of Jensen et al., as rejected in the Final Office Action mailed January 2, 2002, and as maintained in the Advisory Action of July 18, 2002.*

Applicant respectfully states that the above identified deficiencies of Bremenour et al. and Collins et al. remain in the

Examiner's proposed combinations, and for the reasons stated above, the Examiner's proposed combinations do not make obvious Applicant's claimed invention.

Further, Jansen et al. does not make up for the deficiencies of Bremenour et al. and Collins et al., and with respect to Claims 12-14, Jansen et al. does not include the claimed cut out portions for to allow clearance for a customer interface module, nor is the cover of Jansen et al. removable, as it is hinged to the enclosure.

Accordingly, since the proposed combination fails to meet the above described claim limitations of not only the dependent claim, but also independent claim from which they depend, these claims are allowable there over. An early notice of allowance is respectfully requested.

- 7) *Whether Claim 15 is unpatentable under 35 U.S.C. §103(a) over Bremenour et al. in view of Collins et al., and further in view of Jensen, and in further view of well known prior art, as rejected in the Final Office Action mailed January 2, 2002, and as maintained in the Advisory Action of July 18, 2002.*

Applicant respectfully states that the above identified deficiencies of Bremenour et al. and Collins et al. and Jensen remain in the Examiner's proposed combinations, and for the reasons stated above, the Examiner's proposed combinations do not make obvious Applicant's claimed invention. Further, Applicant respectfully

requested a citation of a prior art reference showing the alleged "well known prior art" pursuant to MPEP 2144.03, but none was identified.

With respect to Claim 15, upon information and belief, it is not well known in the art to locking tabs and locking slots in the manner claimed. The proposed combination does not show or suggest the same.

Accordingly, since the proposed combination fails to meet the above described claim limitations of not only the dependent claim, but also independent claim from which they depend, these claims are allowable there over. An early notice of allowance is respectfully requested.

#### Conclusion

Accordingly, Applicant respectfully asserts that the Examiner's rejection of Claims 1-19 is inappropriate. Applicant respectfully requests that the Examiner's rejections be overturned, and that Claims 1-19 be passed to allowance.

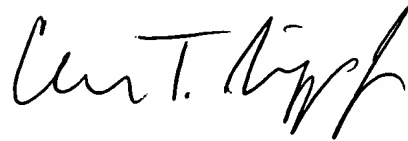
The appeal brief fee is submitted herewith via Credit Card Payment Form PTO-2038, along with the fee for the necessary extension of time to make this brief timely. However, the Commissioner is hereby authorized to charge these fee, if there is any problem with the credit card payment, or any additional fees which may be required to Deposit Account No. 16-0657.

A Petition for an Extension of Time to make this brief timely is enclosed and respectfully requested.

A postcard is enclosed evidencing receipt of the same.

Respectfully submitted,

**PATULA & ASSOCIATES, P.C.**

A handwritten signature in cursive script, appearing to read "Charles T. Riggs Jr.", written in dark ink.

Charles T. Riggs Jr.  
Reg. No. 37,430  
Attorney for Applicant

PATULA & ASSOCIATES, P.C.  
116 South Michigan Avenue  
14th Floor  
Chicago, Illinois 60603  
(312) 201-8220

31C33

## APPENDIX A

1. A wall rack assembly comprising:
  - a shelf assembly for selectively receiving a plurality of network interface units;
  - at least two customer interface module connectors operatively connected to said shelf assembly; and
  - a customer interface module selectively connectable to either one of said at least two customer interface module connectors.
2. The assembly of Claim 1, further comprising a cover for said shelf assembly.
3. The assembly of Claim 2, wherein said cover includes side openings for allowing placement of said cover around said customer interface module.
4. An improved shelf assembly for telecommunications network interface units, said shelf assembly including a printed circuit board for interconnecting customer lines with network service provider lines through said network interface units, said customer lines being connected to a customer interface module which is operatively connected to said printed circuit board, said network service provider lines being connected to said printed circuit board via connectors provided on said printed circuit board, said

improvement comprising:

at least two customer interface module connectors provided on said printed circuit board, said customer interface module being selectively connected to either of said at least two customer interface module connectors to afford flexibility in mounting said shelf assembly.

5. The improved shelf assembly of Claim 4, further comprising a cover for said shelf assembly, said cover having at least two customer interface module receiving openings to allow said cover to be positioned over said shelf assembly when said customer interface module is connected to either of said at least two customer interface module connectors.

6. A shelf assembly for receiving a plurality of telecommunications network interface units and for interconnecting customer lines with network service provider lines, said shelf assembly comprising:

a printed circuit board;

a plurality of network interface unit connectors on said printed circuit board for receiving said network interface units; and

at least two customer interface module connectors for selectively and independently receiving a customer interface module.

7. The shelf assembly of Claim 6, wherein said shelf assembly further includes a top flange, a bottom flange, a first side flange and a second side flange, said top, bottom, first and second side flanges being positioned generally perpendicular to said printed circuit board and forming a housing area for said network interface units.

8. The shelf assembly of Claim 7, wherein said at least two customer interface module connectors include a first customer interface module connector positioned along said first side flange and a second customer interface module connector positioned along said second side flange.

9. The shelf assembly of Claim 8, wherein said customer interface module includes at least one customer line connector, said customer lines being connected to said at least one customer line connector in a direction parallel to said printed circuit board.

10. The shelf assembly of Claim 7, wherein said printed circuit board includes at least one network service provider line connector, said network service provider lines being connected to said at least one network service provider line connector in a direction perpendicular to said printed circuit board.



11. The shelf assembly of Claim 10, wherein said at least one network service provider line connector is located above said top flange.

12. The shelf assembly of Claim 7, further comprising a cover for selectively enclosing said printed circuit board, said top flange, said bottom flange, said first side flange and said second side flange.

13. The shelf assembly of Claim 12, wherein said cover includes at least two cut out portions to allow clearance of said customer interface module.

14. The shelf assembly of Claim 12, wherein said shelf assembly is removably mounted to a back mounting plate.

15. The shelf assembly of Claim 14, wherein said back mounting plate includes cover locking slots, and said cover includes locking tabs which selectively engage said cover locking slots to secure said cover over said shelf assembly.

16. The shelf assembly of Claim 11, wherein said first side flange and said second side flange extend beyond said top flange and said bottom flange, said shelf assembly further comprising a cover, said cover and said top and bottom flanges including openings for

allowing said network service provider lines to pass therethrough.

17. A wall rack assembly for selectively receiving and housing a plurality of network interface units and for interconnecting customer lines with network service provider lines; said assembly providing flexibility in mounting the assembly in the presence of an obstruction and comprising:

a shelf assembly having a first customer interface module connector and a second customer interface module connector; and

a customer interface module selectively and removably connectable to said first customer interface module connector and said second customer interface module, said customer interface module being connected to said first customer interface module connector when said second customer interface module connector is proximate said obstruction and said customer interface module being connected to said second customer interface module connector when said first customer interface module connector is proximate said obstruction.

18. The wall rack assembly of Claim 17, further including a cover for said shelf assembly, said cover selectively positionable over and removable outwardly away from said shelf assembly so as to be unhindered by said obstruction.

19. A method of mounting a wall telecommunications rack

assembly in a difficult to access location, said method comprising the steps of:

providing a shelf assembly having at least a first customer interface module connector and a second customer interface module connector;

providing a customer interface module selectively and removably attachable to said shelf assembly; and

selectively attaching said customer interface module to one of said first customer interface module connector and said second customer interface module connector.